Resolution and interpretation of the ESR spectra of polyphenylacetylene polymerized with ferric acetylacetonate and triethylaluminum 419
A. Langner and P. Ehrlich (Buffalo, NY, U.S.A.)

Soliton spin density in polyacetylene studied by ENDOR in pristine and ^{13}C-enriched cis-rich sample 423
S. Kuroda (Ibaraki, Japan) and H. Shirakawa (Tsukuba, Japan)

Muon spin rotation and relaxation studies of undoped and iodine-doped polyacetylene 429
K. Ishida (Saitama, Japan), K. Nagamine (Tokyo, Japan) and H. Shirakawa (Tsukuba, Japan)

Transport and magnetic studies of segmented polyacetylene 433
F. Zuo, A.J. Epstein (Columbus, OH, U.S.A.), X.-Q. Yang, D.B. Tanner (Gainesville, FL, U.S.A.), G. Arbuckle and A.G. MacDiarmid (Philadelphia, PA, U.S.A.)

T^2 temperature dependence of neutral soliton dynamics in t-polyacetylene. 439
K. Mizoguchi, K. Kume (Tokyo, Japan) and H. Shirakawa (Tsukuba, Japan)

Vibrational mode in finite polyacetylene with charged soliton 447
Y. Mori, H. Tabei and F. Ebisawa (Ibaraki, Japan)

Photoelectron spectroscopy of WCl_6-doped polyacetylene 453
Show-An Chen and Hsien-Ming Wu (Hsinchu, Taiwan, R.O.C.)

Photoelectron spectroscopy of $MoCl_5$-doped polyacetylene 459
Show-An Chen and Hsien-Ming Wu (Hsinchu, Taiwan, R.O.C.)

Structural properties of trans- and cis- $(CH)_x$ 467
H. Kahlert, O. Leitner and G. Leising (Graz, Austria)

Structural studies of oriented precursor route conjugated polymers 473
D.D.C. Bradley, R.H. Friend, T. Hartmann, E.A. Marseglia, M.M. Sokolowski and P.D. Townsend (Cambridge, U.K.)

Local-structure determination in interhalogen-doped polyacetylene by X-ray absorption spectroscopy 479
W. Krone, G. Wortmann, V. Biebesheimer, G. Kaindl (Berlin, F.R.G.) and S. Roth (Stuttgart, F.R.G.)

Structure change of polyacetylene-I_x^- complex by iodine doping 485
K. Shimamura, Y. Yamashita, H. Kasahara and K. Monobe (Okayama, Japan)

Polarized X-ray absorption spectra of halogen-doped polyacetylene 491
H. Oyanagi, M. Tokumoto, T. Ishiguro, T. Matsushita (Ibaraki, Japan), H. Shirakawa, H. Nemoto (Tsukuba, Japan) and H. Kuroda (Bunkyoku, Japan)

Heavy alkali metal doping of $(CH)_x$: new data 497
D. Billaud, J. Ghanbaja and C. Goulon (Vandoeuvre-lès-Nancy, France)

Temperature dependence of transient photoconductivity in polyacetylene .. 503
S. Roth and H. Bleier (Stuttgart, F.R.G.)

BEST COPY AVAILABLE
FOR REPRODUCTION

Photoexcitations and photoconductive response in highly oriented trans-polyacetylene 509
R. Dorsinville, M. Szalkiewicz, R. Tubino, J.L. Birman, R.R. Alfano (New York, NY, U.S.A.), G. Dellepiane (Genoa, Italy) and U. Pedretti (Milan, Italy)

Picosecond photoconductivity in trans-polyacetylene 515
D. Moses, M. Sinclair and A.J. Heeger (Santa Barbara, CA, U.S.A.)

Anisotropy of transient photoconductivity in trans-$(CH)_x$ 521
H. Bleier, S. Roth (Stuttgart, F.R.G.) and G. Leising (Graz, Austria)

Effective mass from magnetoreflection of metallic polyacetylene 527
K. Seeger, W. Markowitsch and F. Kuchar (Vienna, Austria)

Metallic electrical conductivity of doped-polyacetylene at low temperatures 533
K. Kume, S. Masubuchi, K. Mizoguchi, K. Mizuno (Tokyo, Japan) and H. Shirakawa (Tsukuba, Japan)

Electronic structure of the polyacetylene film oriented by a liquid crystal solvent under magnetic field 539
Y.W. Park, Y.S. Lee, Y.K. Kim, C.K. Lee, C. Park (Seoul, Korea), H. Shirakawa, K. Akagi, T. Kitagaki and S. Katayama (Tsukuba, Japan)

Effects of impurities and thermal isomerization on the electrical properties of undoped polyacetylene 545
H. Tanaka and T. Danno (Yamaguchi, Japan)

Improved electrochemical oxidation of polyacetylene 551
B. Krische (Stockholm, Sweden)

One-dimensional conjugated carbyne—synthesis and properties 557
K. Akagi, M. Nishiguchi, H. Shirakawa (Tsukuba, Japan), Y. Furukawa and I. Harada (Sendai, Japan)

$\chi^{(3)}$ of trans-$(CH)_x$: experimental observation of $2A_g$ excited state 563
F. Kajzar, S. Etemad, G.L. Baker and J. Messier (Gif-sur-Yvette, France)

Photo-generation of spins in trans-polyacetylene 569
C.G. Levey, D.V. Lang, S. Etemad, G.L. Baker and J. Orenstein (Murray Hill, NJ, U.S.A.)

An ESR study of conformational defects in polyphenylacetylene solids in the absence and presence of iodine 577
M. Tabata, T. Matsura, S. Okawa, W. Yang, K. Yokota and J. Sohma (Sapporo, Japan)

3. POLY (*p*-PHENYLENE), POLY (*p*-PHENYLENE-VINYLENE), AND ANALOGUES

Electron and crystal structure of sodium-doped polyparaphenylene 583
H. Fark, J. Fink, B. Scheerer (Karlsruhe, F.R.G.), M. Stamm (Mainz, F.R.G.) and B. Tieke (Fribourg, Switzerland)

Interpretation of vibrational studies in phenyl compounds: from oligophenyls to polyparaphenylene 589
S. Krichene, J.P. Buisson and S. Lefrant (Nantes, France)

BEST COPY AVAILABLE
FOR REPRODUCTION

Electrochemical preparation of poly(p-phenylene) and poly(naphthylene) films 595
M. Satoh, M. Tabata, F. Uesugi, K. Kaneto and Katsumi Yoshino (Osaka, Japan)

Electrochemical polymerization of benzene utilizing boron trifluoride ethyl ether complex 601
T. Ohsawa and K. Yoshino (Osaka, Japan)

Optical properties of electropolymerized polyparaphenylene 607
S. Krichene, S. Lefrant (Nantes, France), Y. Pelous, G. Froyer (Lannion, France), M. Petit, A. Digua and J.F. Fauvarque (Villetaneuse, France)

Vibrational spectroscopy and stereochemical structure of poly(p-phenylene) and cis-polyacetylene 613
D. Raković, I. Božović (Belgrade, Yugoslavia), L.A. Gribov, S.A. Stepanyan and V.A. Dementiev (Moscow, U.S.S.R.)

Temperature dependent electron spin echo studies of polarons in donor- and acceptor-doped poly(p-phenylene): structural studies 617
L.D. Kispert, J. Joseph (Tuscaloosa, AL, U.S.A.), J. Tang, M.K. Bowman, G.H. van Brakel and J.R. Norris (Argonne, IL, U.S.A.)

Influence of chain length and structural order on the electrical conductivity of poly-p-phenylenes heavily doped with potassium 623
E.E. Havinga and L.W. van Horssen (Eindhoven, The Netherlands)

UV photoelectron spectroscopy of conducting polymers and their model compounds 629
K. Seki, S. Asada, T. Mori, H. Inokuchi (Okazaki, Japan), I. Murase (Tokyo, Japan), U.O. Karlsson (Linköping, Sweden), R. Engelhardt (Hamburg, F.R.G.) and E.E. Koch (Berlin, F.R.G.)

Optical excitation in highly crystalline polyparaphenylene 635
G. Leising, O. Leitner, F. Aldrian and H. Kahlert (Graz, Austria)

Highly conducting poly(phenylene vinylene) derivatives via soluble precursor process 639
I. Murase, T. Ohnishi, T. Noguchi and M. Hirooka (Tokyo, Japan)

Photoexcitation in poly(arylenevinylenes) 645
D.D.C. Bradley, R.H. Friend (Cambridge, U.K.) and W.J. Feast (Durham, U.K.)

Characterisation of poly(phenylenevinylene) by infrared and optical absorption 651
D.D.C. Bradley, G.P. Evans and R.H. Friend (Cambridge, U.K.)

Photoconductivity and carrier transport process in poly(p-phenylene vinylene) film 657
T. Takiguchi, D.H. Park, H. Ueno, K. Yoshino and R. Sugimoto (Osaka, Japan)

ESR and ENDOR study of poly(phenylene vinylene) 663
S. Kuroda (Ibaraki, Japan), I. Murase, T. Ohnishi and T. Noguchi (Tokyo, Japan)

Electrical and optical properties of fused ring polymers 667
S. Hayashi, S. Nakajima, K. Kaneto and K. Yoshino (Osaka, Japan)

BEST COPY AVAILABLE
FOR REPRODUCTION

Conduction mechanism of doped polyphenylenesulfide 673
J. Tsukamoto, S. Fukuda (Tokyo, Japan), K. Tanaka and T. Yamabe (Kyoto, Japan)

Surface potential decay measurement in conducting polymers and its doping effect 679
J. Kyokane (Nara, Japan), H.B. Gu and K. Yoshino (Osaka, Japan)

Magnetic properties of conducting polymers: sulfur-linked aromatic hydrocarbons with and without acceptor doping 685
T. Sugano and M. Kinoshita (Tokyo, Japan)

Synthesis of polyarenemethines, a new class of conducting polymers 691
R. Jira and H. Bräunling (Burghausen, F.R.G.)

BEST COPY AVAILABLE
FOR REPRODUCTION

VOLUME 18

4. POLYPYRROLE, POLYTHIOPHENE, AND ANALOGUES

Chemistry and conductivity of some salts of polypyrrole 1
G. Wegner, W. Wernet, D.T. Glatzhofer, J. Ulanski, Ch. Kröhnke and M. Mohammadi (Mainz, F.R.G.)

Charging capacitive effect in conducting polymers in relation with the electrochemical doping 7
J. Tanguy, N. Mermilliod and M. Hoclet (Gif-sur-Yvette, France)

Conducting polypyrrole electrochemically prepared from aqueous solutions . 13
Renyuan Qian, Jinjin Qiu and Deyan Shen (Beijing, The People's Republic of China)

Growth instability in diffusion controlled polymerization 19
J.H. Kaufman, O.R. Melroy, F.F. Abraham, A.I. Nazzal (San Jose, CA, U.S.A.) and A. Kapitulnik (Stanford, CA, U.S.A.)

Synthesis and characterization of conducting cyclic polymers containing Mössbauer nuclei 25
A. Pron (Warsaw, Poland), J. Suwalski (Świerk, Poland) and S. Lefrant (Nantes, France)

Growth of polypyrrole film on a mercury electrode 31
B. Kaye and A.E. Underhill (Bangor, U.K.)

Synthesis and properties of polypyrrole prepared by electrochemical polymerization of α-bipyrrole 37
H. Lindenberger, D. Schäfer-Siebert, S. Roth (Stuttgart, F.R.G.) and M. Hanack (Tübingen, F.R.G.)

Synthesis and spectroscopic characterization of polypyrrole containing ferrous cyanide anions 43
M. Zagorska, A. Pron (Warsaw, Poland), S. Lefrant (Nantes, France), Z. Kucharski, J. Suwalski (Świerk, Poland) and P. Bernier (Montpellier, France)

Polypyrrole films grown on the surface of a polyvinyl-ferric chloride complex 49
A. Pron, W. Fabianowski, C. Budrowski (Warsaw, Poland), J.B. Raynor (Leicester, U.K.), Z. Kucharski, J. Suwalski (Świerk, Poland), S. Lefrant and G. Fatseas (Nantes, France)

Electrochemical polymerization of pyrrole in aqueous solutions 53
M. Takakubo (Tokyo, Japan)

Local structure of conducting polypyrrole bromide 59
H. Oyanagi, M. Tokumoto, T. Ishiguro (Ibaraki, Japan), M. Ogasawara, K. Funahashi and K. Iwata (Tokyo, Japan)

Structural characterisation of conducting polymers by small angle neutron scattering 65
Yueqiang Shen, K. Carneiro (Copenhagen, Denmark), T. Freltoft (Roskilde, Denmark) and Renyuan Qian (Beijing, China)

BEST COPY AVAILABLE
FOR REPRODUCTION

Electronic structure of pyrrole-based conducting polymers 71
J. Fink, B. Scheerer (Karlsruhe, F.R.G.), W. Wernet, M. Monkenbusch, G. Wegner (Mainz, F.R.G.), H.J. Freund and H. Gonska (Erlangen, F.R.G.)

Characterisation of the transport properties of conducting polypyrrole films 77
Yueqiang Shen, K. Carneiro (Copenhagen, Denmark), C. Jacobsen (Lyngby, Denmark), Renyuan Qian and Jinjin Qiu (Beijing, China)

Electric conductivity and thermoelectric power of various polypyrroles .. 85
K. Bender, E. Gogu, I. Hennig, D. Schweitzer (Heidelberg, F.R.G.) and H. Münstedt (Ludwigshafen, F.R.G.)

ESR investigation of polarons and bipolarons in conducting polymers: the case of polypyrrole 89
F. Devreux, F. Genoud, M. Nechtschein and B. Villeret (Grenoble, France)

The physical and electrical properties of copolymers of polypyrrole 95
J.R. Reynolds, P.A. Poropatic and R.L. Toyooka (Arlington, TX, U.S.A.)

Effect of organic dopants on electrical conductivity of polypyrrole films 101
S. Kuwabata, K.-I. Okamoto, O. Ikeda and H. Yoneyama (Osaka, Japan)

AC impedance analysis of polypyrrole films 105
M.J. van der Sluijs, A.E. Underhill and B.N. Zaba (Bangor, U.K.)

Conducting polymer film electrode with catalytic sites 111
F. Mizutani, S. Iijima, Y. Tanabe and K. Tsuda (Tsukuba, Japan)

Semiconductors constituted of five-membered heteroarylene vinylene units: polymerization and doping 117
A. Berlin, S. Bradamante, R. Ferraccioli, G.A. Pagani and F. Sannicolo' (Milan, Italy)

Synthesis and physico-chemical characterization of conducting polymers from heteroaromatic bicyclic compounds 123
R. Lazzaroni, A. de Prijck, J. Riga, J. Verbist (Namur, Belgium), C. Bonhomme, F. Brose, L. Christiaens and M. Renson (Liège, Belgium)

Polythiazole: a new semiconducting polymer having a heteroatom in the conduction pathway 129
A. Bolognesi, M. Catellani, S. Destri and W. Porzio (Milan, Italy)

Electrical and optical properties of polaronic states in conducting polymer, polythiophene 133
K. Kaneto and K. Yoshino (Osaka, Japan)

Enhancement of the mean conjugation length in conducting polythiophenes . 139
J. Roncali, F. Garnier (Thiais, France) M. Lemaire and R. Garreau, (Paris, France)

Electrochemical polymerization of thiophene under ultrasonic field 145
S. Osawa, M. Ito, K. Tanaka and J. Kuwano (Tokyo, Japan)

Vibrational key bands and electrical conductivity of polythiophene 151
Y. Furukawa, M. Akimoto and I. Harada (Sendai, Japan)

BEST COPY AVAILABLE FOR REPRODUCTION

Electroconducting polymers derived from unbridged, heterobridged, anellated thiophene units 157
A. Berlin, G.A. Pagani and F. Sannicolo' (Milan, Italy)

Investigation of thiophene-based conducting polymers by electron diffraction and by electron energy-loss spectroscopy 163
J. Fink, N. Nücker, B. Scheerer (Karlsruhe, F.R.G.) and H. Neugebauer (Vienna, Austria)

^{13}C CP-MAS NMR and FTIR studies of polythiophenes 169
J.-E. Osterholm, P. Sunila (Kulloo, Finland) and T. Hjertberg (Göteborg, Sweden)

Optical, electrical and structural comparative study of polycondensed thiophene based polymers 177
C. Taliani, R. Danieli, R. Zamboni, P. Ostoja (Bologna, Italy) and W. Porzio (Milan, Italy)

Photoinduced absorption and resonant Raman scattering of polythiophene .. 183
Z. Vardeny, E. Ehrenfreund, O. Brafman (Haifa, Israel), A.J. Heeger and F. Wudl (Santa Barbara, CA, U.S.A.)

Studies on iodine doped thiophene oligomers 189
Yong Cao, Ding Guo, Mei Pang and Renyuan Qian (Beijing, The People's Republic of China)

Pauli and Curie susceptibilities of polythiophene 195
K. Mizoguchi, K. Misoo, K. Kume (Tokyo, Japan), K. Kaneto, T. Shiraishi and K. Yoshino (Osaka, Japan)

Photoluminescence and optically detected magnetic resonance in polythiophene 199
J. Shinar, Z. Vardeny, E. Ehrenfreund and O. Brafman (Haifa, Israel)

Bipolaron state in polythiophene and polypyrrole due to doubly-charged anion dopant 203
Y. Yumoto, K. Morishita and S. Yoshimura (Kawasaki, Japan)

Degradation of polythiophene film by doping-undoping cycle 207
Y. Takenaka, T. Koike, T. Oka, M. Tanahashi (Kyoto, Japan), K.-I. Kaneto and K. Yoshino (Osaka, Japan)

Synthesis and properties of $FeCl_4$-doped polythiophene 213
J.-E. Osterholm, P. Passiniemi (Kulloo, Finland), H. Isotalo and H. Stubb (Espoo, Finland)

Resonance Raman scattering on poly(3-methylthiophene) 219
E.F. Steigmeier, H. Auderset, W. Kobel and D. Baeriswyl (Zurich, Switzerland)

Optical spectra and electronic structure of poly(3-methylthiophene) 225
S. Hasegawa, K. Kamiya, J. Tanaka and M. Tanaka (Nagoya, Japan)

Soluble conducting polymers by electrochemical polymerization of thiophenes having long alkyl substituents 229
M.-A. Sato, S. Tanaka and K. Kaeriyama (Ibaraki, Japan)

Electrochemical preparation of conducting polyalkylthiophene films 233
K. Kaeriyama, M. Sato and S. Tanaka (Ibaraki, Japan)

Poly(thienylpyrrole)—preparation and properties 237
S. Naitoh (Tokyo, Japan)

New findings on poly[(2,2'-dithienyl)-5,5'diylvinylene] (PDTE) 241
M. Bragadin, P. Cescon (Venice, Italy), A. Berlin, G.A. Pagani and F. Sannicolo' (Milan, Italy)

Properties of free standing and composite conducting heterocyclic polymer films prepared utilizing Lewis acids as catalysts 247
R. Sugimoto, H.B. Gu, S. Hayashi and K. Yoshino (Osaka, Japan)

X-ray photoelectron spectra of polycarbazole.BF_4^- and polypyrene.BF_4^- ... 253
S. Hino (Chiba, Japan)

Rechargeable polypyrrole/lithium cells 259
H. Münstedt, G. Köhler, H. Möhwald, D. Naegele (Ludwigshafen am Rhein, F.R.G.), R. Bitthin, G. Ely and E. Meissner (Kelkheim, F.R.G.)

On the question of metallic "poly(carbon diselenide)" 265
Y. Okamoto, L.S. Choi (Brooklyn, NY, U.S.A.), Z. Iqbal and R.H. Baughman (Morristown, NJ, U.S.A.)

Processible, environmentally stable, highly conductive forms of polythiophene 277
R.L. Elsenbaumer, K.Y. Jen, G.G. Miller and L.W. Shacklette (Morristown, NJ, U.S.A.)

5. POLYANILINE AND ANALOGUES

Polyaniline: a new concept in conducting polymers 285
A.G. MacDiarmid, J.C. Chiang, A.F. Richter (Philadelphia, PA, U.S.A.) and A.J. Epstein (Columbus, OH, U.S.A.)

Electronic structure of some polyanilines 291
W.R. Salaneck, I. Lundström (Linköping, Sweden), T. Hjertberg (Göteborg, Sweden), C.B. Duke, E. Conwell, A. Paton (Webster, NY, U.S.A.), A.G. MacDiarmid, N.L.D. Somasiri, W.S. Huang and A.F. Richter (Philadelphia, PA, U.S.A.)

Polyaniline is poly-para-phenyleneamineimine: proof of structure by synthesis 297
D. Vachon, R.O. Angus Jr., F.L. Lu, M. Nowak, Z.X. Liu, H. Schaffer, F. Wudl and A.J. Heeger (Santa Barbara, CA, U.S.A.)

Insulator-to-metal transition in polyaniline 303
A.J. Epstein, J.M. Ginder, F. Zuo (Columbus, OH, U.S.A.), R.W. Bigelow (Webster, NY, U.S.A.), H.-S. Woo, D.B. Tanner (Gainesville, FL, U.S.A.), A.F. Richter, W.-S. Huang and A.G. MacDiarmid (Pennsylvania, PA, U.S.A.)

Water effects in polyaniline: NMR and transport properties 311
M. Nechtschein, C. Santier, J.P. Travers, J. Chroboczek, A. Alix and M. Ripert (Grenoble, France)

Synthesis and properties of electrically conducting polymers from aromatic amines 317
T. Hagiwara, T. Demura and K. Iwata (Tokyo, Japan)

Electrochemical polymerization of aniline 323
Baochen Wang, Jisong Tang and Fosong Wang (Jilin, The People's Republic of China)

Theoretical studies on models of polyaniline 329
R.R. Chance and D.S. Boudreaux (Morristown, NJ, U.S.A.)

Electronic structure of polyaniline and substituted derivatives 335
P. Snauwaert, R. Lazzaroni, J. Riga and J.J. Verbist (Namur, Belgium)

"Polyaniline": formation reaction and structure 341
A. Kitani, M. Kaya, J. Yano, K. Yoshikawa and K. Sasaki (Higashi-Hiroshima, Japan)

Raman and infrared spectra of polyaniline 347
M. Ohira, T. Sakai, M. Takeuchi, Y. Kobayashi and M. Tsuji (Tokyo, Japan)

In situ spectro-electrochemical studies of polyaniline 353
H. Kuzmany and N.S. Sariciftci (Vienna, Austria)

Electrochemical characterization of chemically synthesized polyanilines . 359
N. Mermilliod, J. Tanguy, M. Hoclet (Gif-sur-Yvette, France) and A.A. Syed (Mysore, India)

Electrochemical studies of polyaniline and its application 365
K. Okabayashi, F. Goto, K. Abe and T. Yoshida (Aichi, Japan)

Electrically conducting polytriphenylamines 371
Y. Ohsawa, M. Ishikawa, T. Miyamoto, Y. Murofushi and M. Kawai (Yokosuka, Japan)

Electrochemical properties of the polymer films prepared by electrochemical polymerization of aromatic compounds with amino groups 375
N. Oyama and T. Ohsaka (Tokyo, Japan)

A new simple synthesis of electroconducting triphenodithiazine 381
C. Della Casa, P. Costa Bizzarri and F. Andreani (Bologna, Italy)

Defect states in polyaniline 387
S. Stafström (Linköping, Sweden)

Polyaniline: electrochemistry and application to rechargeable batteries . 393
A.G. MacDiarmid, L.S. Yang, W.S. Huang and B.D. Humphrey (Philadelphia, PA, U.S.A.)

Electrochemical doping of poly[4-(*N*,*N*-diphenylamino)phenylmethyl methacrylate], and rectification and photovoltaic properties 399
Y. Shirota, N. Noma and H. Mikawa (Osaka, Japan)

6. POLYDIACETYLENE

Spectroscopic study of electronic phase-transition in polydiacetylenes .. 407
Y. Tokura, T. Kanetake, K. Ishikawa and T. Koda (Tokyo, Japan)

New polymerization technique for diacetylenes in the frozen state 413
K. Takeda and M. Hasegawa (Tokyo, Japan)

Acceptor-type polydiacetylene——synthesis and electric conduction 417
K. Naito and M. Okamoto (Kawasaki, Japan)

Structure and disorder of polydiacetylene: poly(4BCMU) 423
Y. Takahashi, T. Zakoh, K. Inoue, H. Ohnuma and T. Kotaka (Osaka, Japan)

ESR studies of polydiacetylene and related materials 427
M.T. Jones, S. Jansen, J. Roble (St. Louis, MO, U.S.A.), D.J. Sandman and C.S. Velazquez (Waltham, MA, U.S.A.)

Electrical properties of I_2-doped polydiacetylene 431
F. Ebisawa, T. Kurihara and H. Tabei (Tokai-mura, Japan)

Electrical properties of urethane-substituted polydiacetylene 437
S. Yamao, K. Se and T. Kotaka (Osaka, Japan)

Dependence of excitation wavelength and intensity on the spectrum and decay of the time-resolved reflectance change of polydiacetylene single crystals 441
T. Kobayashi and H. Ikeda (Tokyo, Japan)

Absorption spectra of chemically modified soluble poly-diacetylene 447
S. Yamao and T. Kotaka (Osaka, Japan)

Inherent phase transition and polymerization mechanism in irradiated diacetylene crystal: 1,6-(*N*-carbazolyl)-2,4-hexadiyne (DCH) 453
T. Matsuyama, N. Achiwa, H. Yamaoka (Osaka, Japan), M. Ohoka and M. Yamamoto (Kyoto, Japan)

Nonlinear spectroscopy in polydiacetylenes 459
P.-A. Chollet, F. Kajzar and J. Messier (Gif-sur-Yvette, France)

Inclusion polymerization of 1,3-butadiyne in deoxycholic acid and apocholic acid canals 465
H. Tsutsumi, K. Okanishi, M. Miyata and K. Takemoto (Osaka, Japan)

7. PYROPOLYMERS AND GRAPHITES

New polyconjugated systems for intrinsically conductive polymers 473
S. Yoshimura, M. Murakami, H. Yasujima, S. Mizogami (Kawasaki, Japan) and S. Iijima (Nagoya, Japan)

Polymetacyclophane: a new class of polyconjugated systems 479
S. Mizogami, S. Naitoh and S. Yoshimura (Kawasaki, Japan)

An approach to the preparation of one-dimensional graphite 485
M. Ozaki, Y. Ikeda and I. Nagoya (Tokyo, Japan)

Properties and structures of graphite fibers prepared from cyanoacetylene 491
S. Fukuda, J. Tsukamoto, A. Takahashi and K. Matsumura (Tokyo, Japan)

Preparation of graphite film by pyrolysis of polymers 497
T. Ohnishi, I. Murase, T. Noguchi and M. Hirooka (Tokyo, Japan)

Preparation and properties of graphite grown in vapor phase 503
H. Matsubara, Y. Yamaguchi, J. Shioya and S. Murakami (Tokyo, Japan)

Highly conductive pyropolymer and high-quality graphite from polyoxadiazole 509
M. Murakami and S. Yoshimura (Kawasaki, Japan)

Electrical conductivity and thermoelectric power in polyacenic materials. 515
H. Ueno, G. Ishii, K. Yoshino, S. Yata (Osaka, Japan), K. Tanaka and T. Yamabe (Kyoto, Japan)

ESR study of in situ doped polyacenic semiconductive material with iodine and bromine 521
K. Tanaka, T. Koike, H. Nishino, T. Yamabe, J. Yamauchi, Y. Deguchi (Kyoto, Japan) and S. Yata (Osaka, Japan)

Electrical properties of pyrolytic polyoxadiazole 527
H. Yasujima, M. Murakami and S. Yoshimura (Kawasaki, Japan)

Morphology and polymerization mechanism of one-dimensional graphite polymer, poly-peri-naphthalene 531
M. Murakami (Kawasaki, Japan)

Electrochemical lithium intercalation of carbon fibers 537
T. Kitamura, T. Miyazaki and T. Kawagoe (Tokyo, Japan)

High field magnetic behaviour of a first stage graphite intercalation compound with $CoCl_2$ 543
R. Yazami (Saint-Martin-d'Hères, France) and G. Chouteau (Grenoble, France)

Some novel graphite intercalation compounds with involatile fluorides: intercalation mechanism and in-plane electrical conductivity 549
H. Touhara, K. Kadono, H. Imoto, N. Watanabe (Kyoto, Japan), A. Tressaud and J. Grannec (Talence, France)

Crystal chemistry and conductivity behavior of new graphite/metal fluoride intercalation compounds 555
A. Tressaud, J. Grannec, B. Hun, S. Flandrois and C. Hauw (Talence, France)

Synthesis and characterization of black phosphorus intercalation compounds 559
T. Nishii (Mie, Japan), Y. Maruyama, T. Inabe (Aichi, Japan) and I. Shirotani (Hokkaido, Japan)

Electrical conductivity, mechanical properties and stability of intercalated graphite fibers 565
Ph. Touzain, G.R. Bagga and S. Blazewicz (Saint-Martin-d'Hères, France)

8. ION IMPLANTATIONS

Implantation of polymers with conjugated bonds with H_2^+ ions 575
A. Kuczkowski and J. Liwo (Gdańsk, Poland)

Ion implantation of polymeric phthalocyanines 581
A.J. Dann, M.R. Fahy, M.R. Willis (Nottingham, U.K.) and C. Jeynes (Guildford, U.K.)

Ion beam modification of conducting polymers 585
T. Wada, A. Takeno, M. Iwaki and H. Sasabe (Saitama, Japan)

Radiation induced effect in conducting polymers 591
S. Hayashi, S. Takeda, K. Kaneto, K. Yoshino and T. Matsuyama (Osaka, Japan)

Substitutional doping in polysilane (SiH)n 597
S. Ikehata (Tokyo, Japan) and T. Iwata (Ibaraki, Japan)

Positron annihilation in (SN)x 601
Y. Suzuki, S. Ishibashi, S. Matsusaki, M. Doyama and I. Nakata (Tokyo, Japan)

Novel quasi-one-dimensional solids with pseudo-$(SN)_x$ bundle-structure ... 605
M. Mégnamisi-Bélombé (Yaoundé, Cameroon)

9. APPLICATIONS

Secondary batteries with electroactive polymer electrodes 611
L.W. Shacklette, M. Maxfield, S. Gould, J.F. Wolf, T.R. Jow and R.H. Baughman (Morristown, NJ, U.S.A.)

(CH)x/(CH)x battery with unsymmetrical tetraalkyl ammonium salt 619
Y. Kobayashi, T. Shishikura, H. Nakamura, H. Konuma (Tokyo, Japan) and K. Fuzita (Ibaraki, Japan)

Electrochemical stability of electrosynthesized heterocyclic semiconducting polymers as cathode-active materials in advanced batteries 625
A. Corradini, M. Mastragostino (Bologna, Italy), A.S. Panero, P. Prosperi and B. Scrosati (Rome, Italy)

Polyaniline, spectroelectrochemistry, display and battery 631
E.M. Geniès, M. Lapkowski, C. Santier and E. Vieil (Grenoble, France)

Critical aspects of organic polymer batteries 637
P. Passiniemi and J.-E. Österholm (Kulloo, Finland)

Polymer battery employing polyacenic semiconductor 645
S. Yata, Y. Hato, K. Sakurai, T. Osaki (Osaka, Japan), K. Tanaka and T. Yamabe (Kyoto, Japan)

Polyacetylene batteries—scaling up and problems 649
T. Nagatomo, C. Ichikawa and O. Omoto (Tokyo, Japan)

Electrochemical behavior of $Fe_xNb_{1-x}Se_3$ ($x=0 \sim 0.25$) with one dimensional structure as new positive electrodes for secondary lithium batteries 655
N. Kumagai, N. Kumagai and K. Tanno (Morioka, Japan)

Electrochemical reaction of doped polyacetylene with acetonitrile electrolytic solution 661
H. Sugimoto, S. Nishimura, K. Fujita, S. Matsuda (Ibaraki, Japan) and Y. Kobayashi (Tokyo, Japan)

Aluminum solid electrolytic capacitor with organic semiconductor 665
S. Niwa (Osaka, Japan)

Post polymerisation processing of conductive polymers (CP) 671
B. Wessling and H. Volk (Ahrensburg, F.R.G.)

Anisotropic conductivity of polypyrrole-polyvinylchloride conducting polymer alloy film prepared on patterned electrode 677
O. Niwa, M. Hikita and T. Tamamura (Ibaraki, Japan)

Molecular semiconductors and junction formation: phthalocyanine derivatives 683
J.J. André (Strasbourg, France), J. Simon, R. Even (Paris, France), B. Boudjema, G. Guillaud and M. Maitrot (Lyon, France)

Schottky barrier formation between polypyrrole and indium 689
S. Miyauchi, A. Fueki, Y. Kushihi, H. Abiko and Y. Sorimachi (Nagaoka, Japan)

Organic semiconducting polymers as molecular material for electronic devices 693
F. Garnier and G. Horowitz (Thiais, France)

Field-effect transistor with polythiophene thin film 699
H. Koezuka, A. Tsumura and T. Ando (Hyogo, Japan)

Photovoltaic effect of n-type polyacetylene junctions 705
A. Usuki, M. Murase and T. Kurauchi (Aichi, Japan)

Electrochemical fabrication of a polypyrrole/polythiophene p-n junction diode 711
M. Aizawa, H. Shinohara (Tokyo, Japan), T. Yamada, K. Akagi and H. Shirakawa (Tsukuba, Japan)

Electroactive polymers in thin layers: a potential application as a gas sensor 715
G. Berthet, J.P. Blanc, J.P. Germain, A. Larbi, C. Maleysson and H. Robert (Aubière, France)

Anisotropic electronic conduction of Nafion-conducting polymer hybrids .. 721
K. Shigehara, M. Hara and A. Yamada (Saitama, Japan)

Conducting polymer electrodes with high performances through anodic doping process 725
T. Iyoda, A. Ohtani, T. Shimidzu and K. Honda (Kyoto, Japan)

Structural design of polymeric solid electrolytes to increase ionic conductivity 731
M. Hara, K. Shigehara and A. Yamada (Saitama, Japan)

Electronic and optical properties of semiconducting polymers $Si_{1-x}C_xH_{2-y}$ $(1>x\geq 0)$ 735
S. Nitta, S. Nonomura, N. Kojima, R. Takagi, I. Murase, M. Sakaida and T. Gotou (Gifu, Japan)

Applications of conducting polymers as electronics and opto-electronics devices 741
K. Yoshino, K. Kaneto and S. Takeda (Osaka, Japan)

Charge-controllable polypyrrole-polyelectrolyte composite membrane 747
T. Iyoda, A. Ohtani, T. Shimidzu and K. Honda (Kyoto, Japan)

Organic electron intensifier 753
B. Jachym, G. Wisniewski and J. Witort (Gdańsk, Poland)

Resonance phenomena in nonlinear parametrically driven systems 759
M. Gitterman and D. Pfeffer (Ramat-Gan, Israel)

Effective content of the crystalline CT complex in reticulate doped polymers 765
J.K. Jeszka, A. Tracz and M. Kryszewski (Łódź, Poland)

Relation between mechanical and piezoelectrical behavior of poly(vinylidene fluoride) films 771
S.Y. Kim and D.H. Choi (Seoul, Korea)

Influence of synthetic conditions and doping-induced modifications in the structure and electrical properties of electret-forming polymers 777
M. Castiñeira, P. Soria, C. Fernandez-Sanchez, J.J. Lopez-Caminos (Alcalá de Henares, Spain), F.J. Berry, S. Jones (Birmingham, U.K.), J.C. Conesa and J.M. Palacios (Madrid, Spain)

Application of conducting polymers as catalysts for cis-trans photoisomerization of alkenes 785
S. Yanagida, M. Hanazawa, A. Kabumoto, C. Pac and K. Yoshino (Osaka, Japan)

Exciton migration and chemical reactions at dye aggregate-semiconductor interface 791
H. Hada and Y. Yonezawa (Kyoto, Japan)

Progress towards organic single-monolayer rectifiers 797
R.M. Metzger, C.A. Panetta, Y. Miura and E. Torres (Mississippi, MS, U.S.A.)

Photo-electrical studies on metal-LB film interfaces 803
T. Nakayama, K. Mizushima, S. Egusa and M. Azuma (Kawasaki, Japan)

The transport mechanism of stearic acid LB films on metal and semiconductor substrates 809
N. Gemma, K. Mizushima, A. Miura and M. Azuma (Kawasaki, Japan)

TTF-TCNQ Langmuir-Blodgett films 815
M. Fujiki and H. Tabei (Ibaraki, Japan)

Electronic conductivity of metallophthalocyanine crystal thin films 821
A. Yamada, K. Shigehara and M. Hara (Saitama, Japan)

Ion exchangers based on oxidized polymers 827
J.O. Besenhard, M. Bindl and J. Marz (Münster, F.R.G.)

Semiconductor evaluation techniques: heat pulses 833
M.I. Ismail and Y. Safar (Kuwait, Kúwait)

Heat pulse technique for evaluation of some conductive polymers 839
M.I. Ismail, R.S. Al-Ameeri and T.A. Al-Sahhaf (Kuwait, Kuwait)

Effect of surfactants on some properties of graphite-based conductive polymers 845
M.I. Ismail and A.Y. Rostom (Kuwait, Kuwait)

Superconducting properties of Chevrel-phase $PbMo_6S_8$ wires 851
Y. Kubo, K. Yoshizaki and Y. Hashimoto (Kanagawa, Japan)

One step elaboration of transparent conducting composites from poly-3 methylthiophene 857
J. Roncali, A. Mastar and F. Garnier (Thiais, France)

Electrical conductivity of organized chromophores in bilayer film 861
R. Aoki, T. Kunitake, N. Kimizuka and M. Shimomura (Fukuoka, Japan)

CONCLUDING REMARKS

Concluding remarks: conductive polymers 869
S. Roth (Stuttgart, F.R.G.)

VOLUME 19

1'. THEORY OF 1D CRYSTALS

Development of a tunneling model of charge-density-wave depinning 1
J. Bardeen, J.W. Lyding, W.G. Lyons, J.H. Miller Jr., R.E. Thorne and J.R. Tucker (Urbana, IL, U.S.A.)

Numerical study on statics and dynamics of charge-density waves in quasi 1D conductors 7
H. Matsukawa (Sapporro, Japan) and H. Takayama (Kyoto, Japan)

Numerical simulation of the intermittent voltage jumps in dc-driven charge-density-wave systems 13
H. Konno (Tsukuba, Japan)

The models of surface electron lattice in ferroelectric incommensurate phase and two dimensional electron lattice in CDW 21
W. Kinase and K. Takahashi (Tokyo, Japan)

Contributions of one- and two-phonon processes to the resistivity of TTF-TCNQ 27
E.M. Conwell (New York, NY, U.S.A.), S. van Smaalen and J. Kommandeur (Groningen, The Netherlands)

Charge transport in charge transfer salts by order parameter fluctuations 33
G.J. Kramer, H.B. Brom and L.J. de Jongh (Leiden, The Netherlands)

Electrons on one-dimensional quasi-periodic lattices 39
M. Fujita and K. Machida (Kyoto, Japan)

Field-induced spin density wave in Bechgaard salts, thermodynamics 45
K. Maki, L. Chen and A. Virosztek (Los Angeles, CA, U.S.A.)

Oscillatory magnetoresistance caused by oscillatory matrix element for scattering in Bechgaard salts 51
K. Yamaji (Ibaraki, Japan)

Nuclear relaxation in organic conductors as a probe of electronic correlations 57
C. Bourbonnais (Orsay, France)

Theory of spin-Peierls transition 63
H. Fukuyama (Tokyo, Japan)

Evolution of the spin-Peierls transition in the $(TMTTF)_2X$ salts ($X = AsF_6$, PF_6, Br) under pressure 69
L.G. Caron (Sherbrooke, Que., Canada), C. Bourbonnais, F. Creuzet and D. Jérôme (Orsay, France)

Effect of next-nearest-neighbor-site transfer integral and nearest-neighbor-site Coulomb interaction on the quasi one-dimensional organic ferromagnet m-polydiphenylcarbene 75
A. Mishima (Ishikawa, Japan) and K. Nasu (Okazaki, Japan)

A generalized MO (GMO) approach to unstable molecules with quasi-degenerate electronic states: ab initio GMO calculations of intramolecular effective exchange integrals and designing of organic magnetic polymers . 81
K. Yamaguchi, Y. Toyoda and T. Fueno (Osaka, Japan)

Ab initio and semiempirical MO calculations of intermolecular effective exchange integrals between organic radicals. Designing of organic ferromagnet, ferrimagnet and ferromagnetic conductors 87
K. Yamaguchi, Y. Toyoda, M. Nakano and T. Fueno (Osaka, Japan)

Towards a unified theory of segregated stack organic charge-transfer solids 93
S. Mazumdar (Waltham, MA, U.S.A.) and S.N. Dixit (Pasadena, CA, U.S.A.)

Toward vibronic control of organic superconductivity 99
A. Tachibana, T. Inoue, H. Fueno, T. Yamabe (Kyoto, Japan) and K. Hori (Yamaguchi, Japan)

Hidden superconductivity 105
A. Tachibana (Kyoto, Japan)

Possibility of organic ferromagnet, polycarbene 111
K. Nasu (Okazaki, Japan) and A. Mishima (Ishikawa, Japan)

Temperature dependence of electrical conductivity 117
P. Love (Stamford, CT, U.S.A.)

2'. BEDT-TTF SALTS

Infrared and far infrared properties of some β-$(BEDT\text{-}TTF)_2X$ compounds ... 125
C.S. Jacobsen (Lyngby, Denmark), D.B. Tanner (Gainesville, FL, U.S.A.), J.M. Williams and H.H. Wang (Argonne, IL, U.S.A.)

Optical properties of BEDT-TTF salts 131
H. Kuroda, K. Yakushi, H. Tajima, H. Kanbara and G. Saito (Tokyo, Japan)

Reflectance spectra of β-$(BEDT\text{-}TTF)_2X$ ($X = I_3, IBr_2$) 137
H. Tajima, H. Kanbara, K. Yakushi, H. Kuroda and G. Saito (Tokyo, Japan)

Infrared properties of a 2-D organic conductor: α-$(BEDT\text{-}TTF)_2I_3$ in its high and low temperature phases 143
M. Meneghetti, R. Bozio and C. Pecile (Padua, Italy)

High T_c superconducting state of β-$(BEDT\text{-}TTF)_2I_3$ 151
K. Murata, M. Tokumoto, H. Anzai, H. Bando, K. Kajimura, T. Ishiguro (Ibaraki, Japan) and G. Saito (Tokyo, Japan)

Two superconducting phases in the organic conductor: β-$(BEDT\text{-}TTF)_2I_3$ 157
F. Creuzet, C. Bourbonnais, G. Creuzet, D. Jérôme, D. Schweitzer and H.J. Keller (Orsay, France)

Study of volume superconductivity in β-$(ET)_2X$ superconductors 163
H. Schwenk (Garching, F.R.G.), S.S.P. Parkin, V.Y. Lee and R.L. Greene (San Jose, CA, U.S.A.)

Approaches to the high T_c superconductivity in β-$(BEDT\text{-}TTF)_2X$ structure .. 169
M. Tokumoto, H. Anzai, K. Murata, H. Bando, K. Kajimura, S. Morita, T. Ishiguro (Ibaraki, Japan) and G. Saito (Tokyo, Japan)

Superconducting critical field in β-$(BEDT\text{-}TTF)_2X$ salts 175
K. Oshima and G. Saito (Tokyo, Japan)

The electrical anisotropy of the organic metals $(BEDT\text{-}TTF)_3(ClO_4)_2$ and α-$(BEDT\text{-}TTF)_3(NO_3)_2$ 179
B. Koch, H.P. Geserich, W. Ruppel (Karlsruhe, F.R.G.), D. Schweitzer and H.J. Keller (Heidelberg, F.R.G.)

Properties of AuI_2^- and $AuBr_2^-$ salts of BEDT-TTF 185
I.D. Parker, S.D. Obertelli, R.H. Friend (Cambridge, U.K.), D.R. Talham, M. Kurmoo, P. Day (Oxford, U.K.), J.A.K. Howard and A. Stringer (Bristol, U.K.)

Frequency-dependent conductivity in pure and iodine-doped α-$(BEDT\text{-}TTF)_2I_3$. 191
M. Przybylski, H.W. Helberg (Göttingen, F.R.G.), D. Schweitzer and H.J. Keller (Heidelberg, F.R.G.)

Measurements of the microwave conductivity of the organic superconductor $ET_2(IAuI)$ 197
D.B. Tanner, C.S. Jacobsen (Lyngby, Denmark), J.M. Williams and H.H. Wang (Argonne, IL, U.S.A.)

Electron spin resonance for (BEDT-TTF) trihalides 203
N. Kinoshita, M. Tokumoto, H. Anzai (Ibaraki, Japan) and G. Saito (Tokyo, Japan)

Conduction-electron-spin resonance in the organic conductors $(BEDT\text{-}TTF)_2X$ ($X = I_3$, IBr_2) 209
T. Sugano, G. Saito and M. Kinoshita (Tokyo, Japan)

Electrical and magnetic properties of organic semiconductors, $(BEDT\text{-}TTF)_2X$ ($X = IBr_2$, IBrCl, and ICl_2) 215
M. Tokumoto, H. Anzai, T. Ishiguro (Ibaraki, Japan), G. Saito, A. Kobayashi (Tokyo, Japan), H. Kobayashi and R. Kato (Chiba, Japan)

Temperature-stress phase diagram for β-$(BEDT\text{-}TTF)_2I_3$ 221
J.E. Schirber (Albuquerque, NM, U.S.A.)

NMR-analysis of electronic properties in organic superconductors $(TMTSF)_2PF_6$ and β-$(BEDT\text{-}TTF)_2I_3$ 225
T. Takahashi, Y. Maniwa, H. Kawamura, G. Saito (Tokyo, Japan) and K. Murata (Ibaraki, Japan)

Raman spectroscopy in the organic conductors α- and β-$(BEDT\text{-}TTF)_2X$ ($X = I_3$ and IBr_2) 231
S. Sugai (Toyonaka, Japan) and G. Saito (Tokyo, Japan)

Contrasted structural properties of organic superconductors 237
S. Ravy, R. Moret, J.P. Pouget and R. Comes (Orsay, France)

Thermal expansion in organic conductors 245
G. Creuzet, C. Gaonach and B. Hamzic (Orsay, France)

Network of the intermolecular contacts in organic conductors and superconductors 251
H.W. Helberg (Göttingen, F.R.G.)

3'. TMTSF AND TMTTF SALTS

Collective modes in organic conductors and superconductors 259
D. Jérôme (Orsay, France)

The Bechgaard salts: spin density wave transitions in a magnetic field ... 265
J.F. Kwak (Albuquerque, NM, U.S.A.)

High field transport in $(TMTSF)_2ClO_4$ and $(TMTSF)_2PF_6$. Quantum effects and phase transitions 271
J.P. Ulmet, A. Khmou and L. Bachere (Toulouse, France)

^{77}Se NMR spin-lattice relaxation rate properties in the $(TMTSF)_2X$ series under pressure: cooperative phenomena and SDW transition 277
F.Creuzet, C. Bourbonnais, L.G. Caron, D. Jérôme and A. Moradpour (Orsay, France)

NMR proton lineshape in $(TMTSF)_2X$: incommensurability of nesting vector, order parameter and anisotropy of SDW 283
J.M. Delrieu, M. Roger, Z. Toffano, E. Wope Mbougue, R. Saint James (Gif-sur-Yvette, France) and K. Bechgaard (Copenhagen, Denmark)

A ^{13}C NMR study of the interplay between the spin-Peierls and antiferromagnetic ground states in $(TMTTF)_2PF_6$ under pressure 289
F. Creuzet, C. Bourbonnais, L.G. Caron, D. Jérôme and K. Bechgaard (Orsay, France)

Temperature effects on the ^{13}C high resolution NMR in $(TMTSF)_2X$ salts..... 295
P. Bernier, P.C. Stein (Montpellier, France) and C. Lenoir (Orsay, France)

The far-infrared conductivity of $(TMTSF)_2AsF_6$ and $(TMTSF)_2SbF_6$ in their spin-density-wave state, measured by a bolometric technique and compared with theory 303
J.E. Eldridge and G.S. Bates (Vancouver, B.C., Canada)

Dimerization, vibronic structures, and optical gaps in the $(TMTTF)_2X$ and $(TMTSF)_2X$ salts 309
R. Bozio, M. Meneghetti, C. Pecile and F. Maran (Padua, Italy)

Molecular orbitals for cations in $(TMTSF)_2ClO_4$ 317
N. Kinoshita (Ibaraki, Japan), H. Teramae, M. Nagaoka, A. Tachibana and T. Yamabe (Kyoto, Japan)

Crystallographic structures of $(TMTSF)_2PF_6$ under constraint: evidence of a change in the electronic structure 321
B. Gallois, J. Gaultier, T. Lamcharfi, F. Bechtel, A. Filhol, L. Ducasse and M. Abderrabba (Talence, France)

Influence of temperature on the band structures of $(TMTSF)_2X$ and $(TMTTF)_2X$ (X^- = tetrahedral anion) 327
L. Ducasse, M. Abderrabba, B. Gallois and D. Chasseau (Talence, France)

Mechanism for longitudinal nesting in the antiferromagnetic transition of the Bechgaard salts 333
C. Bourbonnais (Orsay, France) and L.G. Caron (Sherbrooke, Que., Canada)

Pressure effect on the magnetic susceptibility of low dimensional organic conductors α,β-(BEDT-TTF)$_2$I$_3$ and (TMTSF)$_2$X (X = ClO$_4$, PF$_6$, ReO$_4$) 339
L. Forro, J.R. Cooper, B. Rothaemel, J.S. Schilling (Bochum, F.R.G.), M. Weger, D. Schweitzer, H.J. Keller (Heidelberg, F.R.G.) and K. Bechgaard (Copenhagen, Denmark)

4'. OTHER CATION SALTS

Magnetic resonance of (FA)$_2$X type organic conductors 349
M. Mehring, M. Helmle, D. Köngeter, G.G. Maresch and S. Demuth (Stuttgart, F.R.G.)

Magnetic resonance on conduction electrons in fluoranthene radical cation salts 355
G. Denninger, E. Dormann and M. Schwoerer (Bayreuth, F.R.G.)

ESR-line changes in (FA)$_2$PF$_6$ with defects created by decomposition or irradiation 361
J.M. Delrieu, M. Beguin and M. Sanquer (Gif-sur-Yvette, France)

Electronic and magnetic properties of the (DMtTTF)$_2$X salts 367
C. Coulon, R. Laversanne, J. Amiell, E. Dupart (Talence, France), E. Manhal and J.M. Fabre (Montpellier, France)

The incommensurate phase in spin-Peierls systems and its analogy with the regular Peierls problem: a resonance study 373
T.W. Hijmans, H.B. Brom and L.J. de Jongh (Leiden, The Netherlands)

Thermoelectric power of the (perylene)$_2$ M(mnt)$_2$ family (M = Pt, Au, Pd).. 379
R.T. Henriques, M. Almeida, M.J. Matos (Sacavém, Portugal), L. Alcácer (Lisbon, Portugal) and C. Bourbonnais (Sherbrooke, Que., Canada)

Charge-transfer complexes of peri-condensed Weitz-type donors: 3,10-dithiaperylene, 1,6-dithiapyrene, and their derivatives 385
K. Nakasuji, T. Kotani, I. Murata (Osaka, Japan), A. Kawamoto, J. Tanaka (Nagoya, Japan), T. Enoki, K. Imaeda and H. Inokuchi (Okazaki, Japan)

New conductor based on perylene and metal-bis(1,1-dithio 2,2-dicyano-ethylene) 389
M.J. Matos, R.T. Henriques (Sacavém, Portugal) and L.J. Alcácer (Lisbon, Portugal)

NMR study of the quasi-one dimensional organic metal (perylene)$_2$(AsF$_6$)$_{0.75}$(PF$_6$)$_{0.35}$x0.85 CH_2Cl_2 393
J. Wieland, O. Haeberlen, D. Schweitzer and H.J. Keller (Heidelberg, F.R.G.)

Electric conduction in HMTTeF radical salts 399
S. Matsuzaki, Z.S. Li and M. Sano (Kumamoto, Japan)

The electronic properties of cation radical salts of tetramethoxynaphthalene, TMN, a comparative study of (TMN)$_3$(ClO$_4$)$_2$ and (TMN)$_3$(AsF$_6$)$_2$ 403
S. Söderholm, J. Hellberg (Stockholm, Sweden) and J.U. von Schütz (Stuttgart, F.R.G.)

A new class of conducting organo-metallic salts: TTF radical cation salts with metal halides 409
M. Lequan, R.M. Lequan (Paris, France), C. Hauw, J. Gaultier, G. Maceno and P. Delhaes (Talence, France)

Non conventional electroconductive charge transfer complexes 415
A. Berlin, G.A. Pagani and F. Sannicolo' (Milan, Italy)

$(DMEDT\text{-}TTF)_2X$: structures of two radical cation salts with centrosymmetrical anions $X = AsF_6^-$ and $X = SbF_6^-$ 419
B. Gallois, J. Gaultier, F. Bechtel, D. Chasseau, C. Hauw and L. Ducasse (Talence, France)

Antiferromagnetic properties of $(DIMET)_2 SbF_6$ 425
R. Laversanne, C. Coulon, J. Amiell and J.P. Morand (Talence, France)

5'. TCNQ SALTS

Phonons in TCNQ conductors measured by inelastic neutron scattering and their relation to electronic correlation effects 433
J.S. Pedersen (Roskilde, Denmark), K. Carneiro, L.K. Hansen (Copenhagen, Denmark) and M. Almeida (Sacavém, Portugal)

Field- and frequency dependence of the conductivity of some substituted morpholinium $TCNQ_2$ compounds 439
G.J. Kramer, J.L. Joppe, H.B. Brom, L.J. de Jongh (Leiden, The Netherlands) and J.L. de Boer (Groningen, The Netherlands)

Thermoelectric power of N-dimethyl thiomorpholinium bis-tetracyanoquinodimethane, $DMTM(TCNQ)_2$ 445
M. Almeida (Sacavém, Portugal), L. Alcácer (Lisbon, Portugal), S. Oostra and J.L. de Boer (Groningen, The Netherlands)

Characterization of $TCNQF_4$ charge transfer complexes through vibrational and vibronic studies 451
M. Meneghetti, R. Bozio and C. Pecile (Padua, Italy)

Far infrared transmission measurements and lattice dynamical calculation of $MEM(TCNQ)_2$ at temperatures above and below spin-Peierls transition 457
H. Ohta and K. Nagasaka (Tokyo, Japan)

An alternative explanation of the broad conductivity maxima of metallic TCNQ salts obtained from acetonitrile solution 463
G.J. Ashwell, I.M. Sandy, A. Chyla (Bedford, U.K.) and G.H. Cross (Wembley, U.K.)

New organic conductors based on AzaTCNQ 469
H. Urayama, G. Saito (Tokyo, Japan), T. Inabe, T. Mori and Y. Maruyama (Okazaki, Japan)

Physical properties of trans-stilbene-TCNQ complex 475
Huey-Chuen I. Kao, Su-Fen Wang and Mu-Jung Chen (Taiwan, R.O.C.)

Crystal structures and spectroscopic and electrical properties of alkylthio-1,2-dithiolium-TCNQ charge transfer complexes 481
A. Terzis, E.I. Kamitsos, V. Psycharis, J.S. Zambounis, J. Swiatek and G.C. Papavassiliou (Athens, Greece)

6'. NEUTRAL IONIC TRANSITIONS

Interchain Coulomb interactions and the neutral-ionic interface 489
S. Kuwajima and Z.G. Soos (Princeton, NJ, U.S.A.)

Theory of neutral-ionic transition in mixed stack compounds 497
N. Nagaosa (Tokyo, Japan) and J. Takimoto (Okazaki, Japan)

High pressure optical studies of neutral-ionic phase transitions in organic charge-transfer crystals 503
A. Girlando, C. Pecile (Padua, Italy), A. Brillante (Bologna, Italy) and K. Syassen (Stuttgart, F.R.G.)

Phase diagram and optical properties of mixed stack organic charge-transfer crystals 509
A. Painelli and A. Girlando (Padua, Italy)

Phase transition of the mixed-stack charge-transfer TTF-p-chloranil single crystals 515
T. Mitani (Okazaki, Japan), Y. Tokura, Y. Kaneko, K. Takaoka, T. Koda and G. Saito (Tokyo, Japan)

^{1}H-NMR studies of neutral-ionic transition in TTF-p-chloranil 521
Y. Yoshinari, Y. Maniwa, T. Takahashi, K. Mizoguchi (Tokyo, Japan) and T. Mitani (Okazaki, Japan)

Molecular vibrational spectroscopy of structural phase transitions in organic charge transfer crystals 527
H. Okamoto, Y. Tokura, T. Koda and G. Saito (Tokyo, Japan)

Perylene-hexacyanobutadiene (HCBD) complex 533
H. Yamochi, G. Saito, T. Sugano, M. Kinoshita (Tokyo, Japan), C. Katayama and J. Tanaka (Nagoya, Japan)

7'. SYNTHESIS OF CONDUCTING CRYSTALS

Synthesis of bis(vinylenedithio)tetrathiafulvalene and its methyl derivatives 539
T. Nogami, K. Inoue, T. Nakamura, S.-I. Iwasaka, H. Nakano and H. Mikawa (Osaka, Japan)

Crystal structures of TTM-TTF complexes 545
T. Mori, P. Wu, K. Imaeda, T. Enoki, H. Inokuchi (Okazaki, Japan) and G. Saito (Tokyo, Japan)

A new series of radical-cation salts based on an asymmetrical donor DMET-DSDTF 551
K. Kikuchi, I. Ikemoto and K. Kobayashi (Tokyo, Japan)

Synthesis of a new series of unsymmetrical dithiadiselenafulvalenes 555
K. Kobayashi, K. Kikuchi, T. Namiki and I. Ikemoto (Tokyo, Japan)

Radical cation salts of an unsymmetrical BEDT-TTF derivative: DIMET 559
K. Bender, H. Endres, S. Gärtner, E. Gogu, R. Heid, I. Heinen, H.J. Keller, A. Kraatz and D. Schweitzer (Heidelberg, F.R.G.)

Synthesis of new donors containing two TTF moieties 565
H. Tatemitsu, E. Nishikawa, Y. Sakata and S. Misumi (Osaka, Japan)

New donors for organic metals 569
T. Sugimoto, H. Awaji, I. Sugimoto, Y. Misaki and Z.-I. Yoshida (Kyoto, Japan)

Synthesis, properties, and structure of conductive and superconductive molecular complexes and derived organometallic polymers 573
P. Cassoux, L. Valade, T. Vogt (Toulouse, France), R. Vicente, J. Ribas (Barcelona, Spain), P. Thuery and O. Kahn (Orsay, France)

Preparation, structure and properties of $K[Pd(S_2C_2(CN)_2)_2].H_2O$ and $Cs[Pd(S_2C_2(CN)_2)_2].0.5H_2O$ 579
P.I. Clemenson, A.E. Underhill (Bangor, U.K.), M.B. Hursthouse, R.L. Short (London, U.K.), G.J. Ashwell, I.M. Sandy (Bedford, U.K.), M.T. Jones (St. Louis, MI, U.S.A.), C. Jacobsen (Lyngby, Denmark) and K. Carneiro (Copenhagen, Denmark)

New charge transfer salts containing BEDT-TTF and structurally related transition metal complexes 585
H.J. Keller, R. Niebl, D. Nöthe, D. Schweitzer and A. Weber (Heidelberg, F.R.G.)

Tetratelluradicyclopenta[b,g]naphthalene (TTeDCN) 589
N. Okada, G. Saito (Tokyo, Japan) and T. Mori (Okazaki, Japan)

3,4-dichalcogen-bridged fluoranthenes as new electron donors: a study on their charge-transfer complexes and radical cation salts 595
T. Otsubo, H. Miyamoto, Y. Aso and F. Ogura (Higashi-Hiroshima, Japan)

The first polymeric-anion derivatives of BEDT-TTF 599
U. Geiser, H.H. Wang, J.M. Williams (Argonne, IL, U.S.A.), E.L. Venturini, J.F. Kwak (Albuquerque, NM, U.S.A.) and Myung-Hwan Whangbo (Raleigh, NC, U.S.A.)

Syntheses, structures and properties of $(ET)_4(Mo_6Cl_8)Cl_6(THF)$ and $(ET)_2X$ ($X = AuI_2$, $(AuI_2)_{0.26}(I_3)_{0.74}$, $AuBr_2$, $Au(CN)_2$) 605
E. Amberger, H. Fuchs and K. Polborn (Munich, F.R.G.)

Crystal growth of BEDT-TTF trihalides 611
H. Anzai, M. Tokumoto, T. Ishiguro (Ibaraki, Japan), G. Saito, A. Kobayashi (Tokyo, Japan), H. Kobayashi and R. Kato (Chiba, Japan)

Synthesis, structure and properties of $(BMDT\text{-}TTF)_2Au(CN)_2$ 617
P.J. Nigrey, B. Morosin, J.F. Kwak, E.L. Venturini, J.E. Schirber (Albuquerque, NM, U.S.A.) and M.A. Beno (Argonne, IL, U.S.A.)

Crystal and electronic structures of molecular conductors based on the multi-sulfur π-donor molecules 623
H. Kobayashi, R. Kato (Chiba, Japan) and A. Kobayashi (Tokyo, Japan)

Crystal and electronic structures of cation radical salts based on BEDSe-TSeF, Se-analogue of BEDT-TTF 629
R. Kato, H. Kobayashi (Chiba, Japan) and A. Kobayashi (Tokyo, Japan)

New aspects of molecular conductors of metal complexes with multi-sulfur π-donor and π-acceptor molecules 635
A. Kobayashi (Tokyo, Japan), R. Kato and H. Kobayashi (Chiba, Japan)

Tetrathiafulvalene (TTF), tetramethyltetraselenafulvalene (TMTSF), and bis(ethylenedithio)tetrathiafulvalene (BEDT-TTF) salts of copper halides 641
M. Inoue, M.B. Inoue, C. Cruz-Vazquez (Sonora, Mexico), S. Roberts and Q. Fernando (Tucson, AZ, U.S.A.)

The synthesis and study of new selenium and tellurium heterocyclic π-donors 647
K. Lerstrup, A. Bailey, R. McCullough, M. Mays, D. Cowan (Baltimore, MD, U.S.A.) and T. Kistenmacher (Laurel, MD, U.S.A.)

8'. NEW MATERIALS AND OTHER EXOTIC MATERIALS

Strategies to obtain new ultrathin conducting films 655
A. Barraud (Gif-sur-Yvette, France)

Intrinsically conducting Langmuir-Blodgett film of TMTTF-octadecylTCNQ .. 663
Y. Kawabata, T. Nakamura, M. Matsumoto, M. Tanaka, T. Sekiguchi, H. Komizu, E. Manda (Ibaraki, Japan) and G. Saito (Tokyo, Japan)

ESR study on LB films of TMTTF-octadecylTCNQ 669
K. Ikegami, S. Kuroda, M. Sugi, M. Saito, S. Iizima, T. Nakamura, M. Matsumoto, Y. Kawabata (Ibaraki, Japan) and G. Saito (Tokyo, Japan)

Conductivities of N-docosylpyridinium-$(TCNQ)_n$ (n=1,2) in the forms of monolayers at air-glycerin interface and Langmuir-Blodgett films 675
M. Matsumoto, T. Nakamura, F. Takei, M. Tanaka, T. Sekiguchi, M. Mizuno, E. Manda and Y. Kawabata (Ibaraki, Japan)

The conductivity-area isotherm of binary charge transfer complex, TMTTF-octydecylTCNQ, on a glycerin subphase 681
T. Nakamura, F. Takei, M. Matsumoto, M. Tanaka, T. Sekiguchi, E. Manda, Y. Kawabata (Ibaraki, Japan) and G. Saito (Tokyo, Japan)

Coupling between iodine ordering and Peierls transition in the quasi one-dimensional conductor $DIPS\phi_4(I_3)_{0.76}$ 687
P.A. Albouy, P. Le Guennec, J.P. Pouget and C. Noguera (Orsay, France)

Semiconducting organometallics containing a transition metal and diene ligands 693
H. Yasuda, S. Miyanaga, A. Nakamura and H. Sakai (Osaka, Japan)

Synthesis and study of multiple cationic salts of hexamethoxytriphenylene (HMTP) 697
L.Y. Chiang, D.C. Johnston, J.P. Stokes and A.N. Bloch (Annandale, NJ, U.S.A.)

Crystal structures, electrical and optical properties of $(BPTTF)_m X_n$, $(PEDTTTF)_m X_n$ ($X = BF_4$, I_3) and similar salts 703
G.C. Papavassiliou, A. Terzis, A. Hountas, S.Y. Yiannopoulos (Athens, Greece), A.E. Underhill, B. Kaye (Bangor, U.K.) and H.P. Geserich (Karlsruhe, F.R.G.)

A new, simple model for organic ferromagnetism and the first organic ferromagnet 709
J.B. Torrance, S. Oostra and A. Nazzal (San Jose, CA, U.S.A.)

Electrical resistivity of DBTTF, DBTSF and TTT salts with dialkyltin(IV) chloride anions 715
G. Matsubayashi, R. Shimizu and T. Tanaka (Suita, Japan)

Magnetic property of an organic conductor, $(TTM\text{-}TTF)(I_3)_{0.823}$ 721
K. Imaeda, T. Enoki, T. Mori, P. Wu, M. Kobayashi, H. Inokuchi (Okazaki, Japan) and G. Saito (Tokyo, Japan)

New donors for cation radical salts based on the naphthalene skeleton ... 727
J. Hellberg and L. Engman (Stockholm, Sweden)

Magnetic molecular charge transfer complexes 731
S.R. Chittipeddi, A.J. Epstein (Columbus, OH, U.S.A.), J.H. Zhang, W.F. Reiff (Boston, MA, U.S.A.), I. Hamberg, D.B. Tanner (Gainesville, FL, U.S.A.), D.C. Johnson and J.S. Miller (Wilmington, DE, U.S.A.)

9'. METAL CHAIN AND MACROCYCLIC SYSTEMS

Synthesis and properties of new semi-conducting bridged phthalo- and naphthalocyaninatometal compounds 739
M. Hanack, S. Deger, U. Keppeler, A. Lange, A. Leverenz and M. Rein (Tübingen, F.R.G.)

Crystal structure and conductivity of the organometallic linear chain system $(Et_4N)[Ni(DMIT)_2]$ and related compounds 745
G.J. Kramer, L.R. Groeneveld, J.L. Joppe, H.B. Brom, L.J. de Jongh and J. Reedijk (Leiden, The Netherlands)

Inherently conductive crystals of cyanocobalt(III)phthalocyanine 751
Y. Orihashi, N. Kobayashi, H. Ohno, E. Tsuchida (Tokyo, Japan), H. Matsuda, H. Nakanishi and M. Kato (Ibaraki, Japan)

Polydecker sandwich complexes 757
Th. Kuhlmann, W. Siebert, U. Zenneck (Heidelberg, F.R.G.), S. Roth (Stuttgart, F.R.G.) and J. Roziere (Montpellier, France)

Synthetic conducting materials. I. Partial oxidation of bis(difluoro-borondiphenylglyoximato)nickel(II) with iodine 763
Wen-Jwu Wang and Wen-Jang Chu (Taiwan, R.O.C.)

Preparation, structure and properties of metallic (phthalocyanato)nickel salts 769
K. Yakushi, M. Sakuda, I. Hamada, H. Kuroda, T. Sugano, M. Kinoshita (Tokyo, Japan), A. Kawamoto and J. Tanaka (Nagoya, Japan)

Metal phthalocyanine polymer film formation by the double source evaporation of tetracyanobenzene and metal 775
M. Yudasaka, K. Nakanishi, T. Hara, M. Tanaka, S. Kurita (Yokohama, Japan) and M. Kawai (Saitama, Japan)

Magnetic transitions in a molecular metal with embedded local moments: Cu(pc)I 781
M.Y. Ogawa, S.M. Palmer, J. Martinsen, J.L. Stanton, B.M. Hoffman, J.A. Ibers, S. Lee, M. Yudkowsky and W.P. Halperin (Evanston, IL, U.S.A.)

Synthesis and properties of (μ-thiocyanato) and (μ-azido)phthalocyaninato-metal-complexes 787
M. Hanack, C. Hedtmann-Rein, A. Datz, U. Keppeler and X. Münz (Tübingen, F.R.G.)

10'. INORGANIC CONDUCTING CRYSTALS

Dynamics of CDW conduction in $NbSe_3$ in high magnetic fields 795
R.V. Coleman, M.P. Everson, G. Eiserman, A. Johnson and Hao-An Lu (Charlottesville, VA, U.S.A.)

A magnetic-induced phase transition in $NbSe_3$ 801
P. Monceau, J. Richard and O. Laborde (Grenoble, France)

Magnetotransport studies in charge density wave conductors 807
A. Zettl, M.F. Hundley and P. Parilla (Berkeley, CA, U.S.A.)

A rf-induced dynamic coherence length in $NbSe_3$ 813
R.P. Hall, M.F. Hundley and A. Zettl (Berkeley, CA, U.S.A.)

Inelastic neutron scattering study of one-dimensional inorganic conductors 819
P. Monceau, L. Bernard, R. Currat (Grenoble, France), F. Levy (Lausanne, Switzerland) and J. Rouxel (Nantes, France)

The effect of strong impurities on the low-frequency broadband noise in $NbSe_3$ 825
A. Maeda, K. Uchinokura and S. Tanaka (Tokyo, Japan)

On the origin of the increase of the depinning field of the charge density waves at low temperatures 831
A. Maeda, K. Uchinokura and S. Tanaka (Tokyo, Japan)

The quasi-one-dimensional conductor under uniaxial strain: non-ohmic conduction and dc-induced voltage oscillations in orthorhombic TaS_3 837
V.B. Preobrazhensky and A.N. Taldenkov (Moscow, U.S.S.R.)

Thermal conductivity of orthorhombic TaS_3 843
A.V. Inyushkin, A.N. Taldenkov and V.V. Florentiev (Moscow, U.S.S.R.)

Crystal defects influence on Peierls transition in orthorhombic TaS_3 849
Yu.I. Latyshev, V.V. Petristchev, Ya.S. Savitskaya and V.V. Frolov (Moscow, U.S.S.R.)

Pressure dependence of the resistance of a type II-like NbS_3 below Peierls transition temperature 855
Chen Xin-Fen, Duan Hong-Min, Lin Shu-Yuan, Wu Pei-Jun and Zhang Dian-Lin (Beijing, The People's Republic of China)

Thermal properties of $(NbSe_4)_3I$ 859
A. Smontara, K. Biljakovic, L. Forro (Zagreb, Yugoslavia) and F. Levy (Lausanne, Switzerland)

Crystal structure and far-infrared reflectance at 30 K in linear-chain semiconductor $(NbSe_4)_3I$ 863
M. Izumi, T. Iwazumi, T. Seino, T. Sekine, E. Matsuura, R. Yoshizaki (Tsukuba, Japan) and K. Uchinokura (Tokyo, Japan)

Raman scattering in linear-chain compounds $(NbSe_4)_{10/3}I$ and $(NbSe_4)_3I$ ... 869
T. Sekine, M. Izumi and E. Matsuura (Tsukuba, Japan)

Charge-density-wave phase transition in Nb_3Te_4 875
T. Sekine, Y. Kiuchi, M. Izumi, R. Yoshizaki, E. Matsuura (Tsukuba, Japan) and K. Uchinokura (Tokyo, Japan)

Charge-density waves in layered chalcogenides observed by scanning tunneling microscopy 881
R.V. Coleman, W.W. McNairy, C.G. Slough (Charlottesville, VA, U.S.A.), P.K. Hansma and B. Drake (Santa Barbara, CA, U.S.A.)

Effects of lattice fluctuations on electrical resistivity and spin susceptibility of layered transition-metal dichalcogenides 887
N. Suzuki, H. Yoshiyama, K. Motizuki (Toyonaka, Japan) and Y. Takaoka (Kusatsu, Japan)

Synthesis, transport and superconducting properties of rare earth metal intercalated tantalum disulfide RE_xTaS_2 (RE = La,Ce)..... 893
K. Suzuki, N. Kojima, T. Ban and I. Tsujikawa (Kyoto, Japan)

Oxidation of $Na_3Cu_4S_4$ and $Na_2Mn_2S_3$ in acetonitrile with iodine 897
S. Kikkawa, H. Taira and M. Koizumi (Osaka, Japan)

Photoconductivity of halogen bridged platinum complexes 901
M. Haruki, M. Tanaka and S. Kurita (Yokohama, Japan)

Charge transfer excitons in halogen-bridged mixed valence complexes 907
Y. Wada, T. Mitani (Okazaki, Japan), M. Yamashita (Fukuoka, Japan) and T. Koda (Tokyo, Japan)

Bulk superconductivity of $Hg_{3-\delta}AsF_6$ 911
F. Gross, H. Veith, M. Weger, K. Andres (Garching, F.R.G.) and A.G. MacDiarmid (Philadelphia, PA, U.S.A.)

CDW transport in the blue bronze and related phenomena 917
J. Dumas, C. Schlenker, P. Beauchene, C. Filippini, R. Buder and B. Daudin (Grenoble, France)

Transport and structural properties of CDW in $K_{0.30}MoO_3$ 923
T. Tamegai, K. Tsutsumi and S. Kagoshima (Tokyo, Japan)

Neutron study of low frequency structural excitations of $K_{0.3}MoO_3$ in the Peierls insulating state 931
C. Escribe-Filippini (Grenoble, France), J.P. Pouget (Orsay, France), B. Hennion (Gif-sur-Yvette, France) and M. Sato (Okazaki, Japan)

EPR, Mössbauer and UPS studies on the charge density state in the blue bronze 937
J. Dumas, C. Schlenker, J.Y. Veuillen, R. Chevalier, J. Marcus, R. Cinti and E. Al Khoury Nemeh (Grenoble, France)

Dielectric losses of TTF-TCNQ and $K_{0.30}MoO_3$ at low temperatures 941
H. Kubota, M. Onuki (Kumamoto, Japan), T. Masumi (Tokyo, Japan), H. Anzai (Ibaraki, Japan) and M. Sato (Aichi, Japan)

Charge density waves in Mo_nO_{3n-1} 947
M. Onoda, Y. Matsuda, M. Sato (Okazaki, Japan) and H. Fujishita (Tokyo, Japan)

Preparation, structure and properties of $[Ni(S_2C_2(CN)_2)_2]^-$ salts with small cations 953
A.E. Underhill, P.I. Clemenson (Bangor, U.K.), M.B. Hursthouse, R.L. Short (London, U.K.), G.J. Ashwell, I.M. Sandy (Bedford, U.K.) and K. Carneiro (Copenhagen, Denmark)

Preparation, structure and properties of $[Ni(S_2C_2(CF_3)_2)_2]^-$ salts 959
N.J. Harris and A.E. Underhill (Bangor, U.K.)

New 1-D platinum chain compounds with commensurate Peierls structure 963
M. Mizuno (Tsukuba, Japan)

Synthesis and electrical conductivity of a new family of Pt mixed valence complexes: $Pt_6(NH_3)_{14}Cl_{10}X_4$ (X = ClO_4, BF_4 and PF_6) 967
M. Tanaka, N. Kojima, Y. Ajiro, T. Ban and I. Tsujikawa (Kyoto, Japan)

Polarons and bipolarons in quasi-1-D conductor vanadium bronzes 971
H. Nagasawa, M. Onoda (Tsukuba, Japan), Y. Kanai and S. Kagoshima (Tokyo, Japan)

ABSTRACTS

Structural correlations within the ET family: ESR study of an optically enhanced phase transition in BEDT-TTF Ta_2F_{11} 979
S.S.P. Parkin and J.V. Acrivos (San Jose, CA, U.S.A.)

Chemistry of organic metals: synthetic approaches to mixed chalcogenide BEDT-TTF 980
V.Y. Lee (San Jose, CA, U.S.A.)

Salts of graphite and boron nitride and related materials 981
N. Bartlett, F. Okino, G. Rosenthal, S. Mayorga, K. Kourtakis and M. Lerner (Berkeley, CA, U.S.A.)

A mechanism of charged soliton conduction in a doped polyacetylene chain. 982
H. Fukutome and A. Takahashi (Kyoto, Japan)

Low-frequency damping in charge-density wave materials 983
R.M. Fleming (Murray Hill, NJ, U.S.A.)

Synthesis and physical properties of a bimetallic one-dimensional polymer: $[PdPt(C_2S_2O_2)_2]_n$ 984
C. Alvarez, I. Rodriguez, M.E. Lopez-Morales, R. Escudero and J. Gomez-Lara (Mexico, Mexico)

Effect of polyacetylene molecular weight and dopant concentration on the temperature dependence of transport properties 985
J.C.W. Chien (Amherst, MA, U.S.A.)

"One-dimensional" BCS Hamiltonian in $Hg_{3-\delta}AsF_6$ 986
M. Weger, T. Sugiyama and H. Gutfreund (Jerusalem, Israel)

A new type of organic semiconductors: molecular fastener 987
H. Inokuchi (Okazaki, Japan)

Poly(cyanogen) and derived carbon fibers 988
J.H. Chen, P.H. Chang and M.M. Labes (Philadelphia, PA, U.S.A.)

The Durham route to polyacetylene 989
R.H. Friend, P.D. Townsend, D.D.C. Bradley (Cambridge, U.K.), W.J. Feast, D. Parker (Durham, U.K.), N.C. Billingham, P.D. Calvert, P.J.S. Foot (Brighton, U.K.), D.C. Bott and J.N. Winter (Sunbury-on-Thames, U.K.)

Near IR absorption and pulsed-photoconductivity in polyacetylene 990
K. Sasaki, T. Kubo, H. Takezoe and A. Fukuda (Tokyo, Japan)

Ion exchange in polyacetylene 991
J.B. Schlenoff and J.C.W. Chien (Amherst, MA, U.S.A.)

Properties of one-dimensional conductors with small interchain coupling . 992
H.J. Schulz (Orsay, France)

Cascade of field-induced SDW phases in quasi 1-D conductors 993
G. Montambaux, M. Heritier and P. Lederer (Orsay, France)

Quantized field-induced SDW ordering in quasi 1D conductors in the weak coupling limit 994
D. Poilblanc, M. Heritier, G. Montambaux and P. Lederer (Orsay, France)

Salts of aromatic radical cations issued from truxenes 995
R. Cayuela, Nguyen Huu Tinh, C. Destrade, J.P. Morand and P. Delhaes (Talence, France)

Dimerization, vibronic structures and optical gaps in the Bechgaard salts 996
R. Bozio, M. Meneghetti, C. Pecile and F. Maran (Padua, Italy)

Electronic structure of heterocyclic ring chain pclymers 997
J.W. Mintmire and C.T. White (Washington, DC, U.S.A.)

Polypyrrole composites 998
G.P. Gardini and V. Bocchi (Parma, Italy)

Polymerization of 3-N-carbazolyl-propyne and 1,6-di-N-carbazolyl-2,4-hexadiyne with simultaneous charge transfer intercalation in molten iodine 999
Daoben Zhu, Songqing Shi and Renyuan Qian (Beijing, The People's Republic of China)

Syntheses of conjugated sulfide polymers and the properties 1000
E. Kobayashi, T. Ohashi and J. Furukawa (Noda, Japan)

Resistivity and magnetoresistance of the organic superconductor β(BEDT-TTF)$_2$I$_3$ at ambient pressure for current flow along the C* axis 1002
J.R. Cooper, L. Forro (Zagreb, Yugoslavia) and D. Schweitzer (Heidelberg, F.R.G.)

Charge-density waves in layered chalcogenides observed by scanning tunneling microscopy 1003
R.V. Coleman, W.W. McNairy, C.G. Slough (Charlottesville, VA, U.S.A.), P.K. Hansma and B. Drake (Santa Barbara, CA, U.S.A.)

Ab initio study on the cis-trans energetics of polyacetylene 1004
H. Teramae (Musashino, Japan)

Coulomb effects on the XPS in doped polyacetylene 1005
M. Sasai (Okazaki, Japan) and H. Fukutome (Kyoto, Japan)

Molecular conformation and optical spectra of polyaniline 1006
E. Conwell, C. Duke, A. Paton and W. Salaneck (Linköping, Sweden)

Vibrational spectra of polyaniline and its deuterated and ^{15}N-substituted derivatives 1007
Y. Furukawa, T. Hara, Y. Hyodo and I. Harada (Sendai, Japan)

Electronic structure of organopolysilane 1008
K. Takeda, H. Teramae, M. Fujino, T. Kagawa and N. Matsumoto (Tokyo, Japan)

Preparation of conducting materials by doping of polyethinylferrocene ... 1009
A. Camus, N. Marsich (Trieste, Italy), A. Furlani, G. Ortaggi, R. Paolesse, R. Reali and M.V. Russo (Rome, Italy)

Electrochemistry of some functionalized polypyrrole films, the special case of quinonic functions 1010
P. Audebert, G. Bidan, M. Lapkowski (Grenoble, France) and D. Limosin (Saint-Martin-d'Hères, France)

Electrochemical application of conductive polymer compounds 1011
T. Sakai, N. Furukawa, K. Nishio (Osaka, Japan), T. Suzuki and K. Hasegawa (Kanagawa, Japan)

Transparent conducting polymers 1012
S. Miyata, T. Ojio and Yun Eon Whang (Tokyo, Japan)

Synthesis of graphite films by CVD method 1013
K. Tsutsumi, Y. Matsumura (Kawasaki, Japan) and H. Doi (Tsukuba, Japan)

Graphite intercalation compounds of fluorine and fluoride 1014
T. Nakajima, T. Ino, K. Nakane and N. Watanabe (Kyoto, Japan)

CONCLUDING REMARKS

Concluding remarks: organic conducting crystals 1017
D. Jérôme (Orsay, France)

Concluding remarks: inorganic conductors..... 1021
A. Zettl (Berkeley, CA, U.S.A.)

AUTHOR INDEX, SUBJECT INDEX 1023